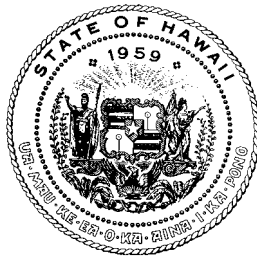


**TECHNICAL GUIDANCE MANUAL**  
**FOR**  
**UNDERGROUND STORAGE TANK CLOSURE**  
**AND**  
**RELEASE RESPONSE**



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Environmental Management Division  
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### GLOSSARY

**Abatement** - Actions taken to reduce or control contamination resulting from a UST, including eliminating the source of the contamination.

**Aeration** - A physical process to enhance the vaporization of volatile contaminants from liquid state to gaseous state.

**Ancillary Equipment** - Includes, but is not limited to, any devices such as fittings, flanges, valves, and pumps, that are used to distribute, meter, or control the flow of regulated substances to and from a UST.

**Aquifer** - An underground geological formation that has sufficiently high porosity and permeability to supply water for wells and springs.

**Biodegradation** - A process by which a contaminant is subject to degradation by microorganisms.

**Change-in-Service** - Continued use of a UST, which formerly stored a regulated substance, to store a non-regulated substance.

**Cleanup** - Actions taken to address a release, or threat of a release, of a regulated substance that could affect or potentially affect human health and/or the environment. The term "cleanup" is sometimes used interchangeably with the terms "remedial action", "release response action", or "corrective action".

**Confined Aquifer** - An aquifer in which groundwater is confined under pressure, by a low permeability geological layer.

**Confirmed Release** - The detection of a regulated substance in air, soil, or water caused by a release from a UST.

**Contaminant** - A regulated substance which has been released into air, soil, or water.

**Debris** - Materials such as rocks, concrete and asphalt rubble, tree stumps and other plant materials which can normally be encountered during UST closure and cleanup activities.

**Excavation** - The volume of space from which materials have been removed such as the UST, backfill, and native soil.

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**Federal UST Regulations** - All rules and regulations promulgated by the U. S. Environmental Protection Agency under 40 CFR Part 280 pursuant to Subtitle I of the Resource Conservation and Recovery Act.

**Field Measurements** - Quick indicators of contaminants in the environment procured in a manner which do not include analysis of samples by a laboratory.

**Field Sampling Plan (FSP)** - Defines in detail the sampling and data gathering activities to be used at a site.

**Free Product** - Refers to a regulated substance that is present as a non-aqueous phase liquid (i.e., liquid not dissolved in water).

**Ground Water** - Saturated zone (water) beneath land surface, usually in the form of aquifers below the unsaturated zone.

**Hazardous Substance** - Any substance defined in section 101 (14) of the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C of the Resource Conservation and Recovery Act).

**Hazardous Waste** - A material no longer useable which is listed by EPA as a hazardous waste, or a material no longer useable which exhibits characteristics of a hazardous waste as defined in 40 CFR Part 261.

**Inerting** - The process by which an inert gas such as carbon dioxide or nitrogen is introduced at low pressure into a tank to displace petroleum vapors.

**Liner** - A relatively impermeable barrier or membrane designed to prevent leachate from infiltrating into native soil or surface beneath. Liners are constructed of synthetic or clay materials.

**Makai** - Toward the sea. "Makai of the UIC line" means the area outside the underground injection control (UIC) line encircling the island or protected aquifer.

**Mauka** - Toward the mountains. "Mauka of the UIC line" means the area inside the underground injection control (UIC) line encircling the island or protected aquifer.

**Maximum Contaminant Level (MCL)** - The maximum permissible level of a contaminant in water delivered to any user of a public water system. These levels are established for drinking water under the federal Safe Drinking Water Act.

**Monitoring** - Periodic or continuous surveillance, sampling, or testing to determine contaminant levels or compliance with regulatory requirements.

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**Operator** - Any person in control of, or having responsibility for, the day-to-day operation of the UST.

**Owner** - (1) In the case of a UST in use, or brought into use, on or after May 19, 1984, any person who owns a UST used for the storage, use, or dispensing of regulated substances; and (2) in the case of a UST in use before May 19, 1986, but no longer in use after that date, any person who owned such UST immediately before the discontinuation of its use.

**Petroleum** - A regulated substance which includes crude oil or any fraction thereof which is liquid at standard temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

**Project Coordinator** - Person (generally, from an environmental consulting firm) who has signatory authority and responsibility to plan and oversee closure and release response activities at a UST site. This person should ideally be present at all times while work is being done at the UST site.

**Purging** - The process of ventilating a UST by displacement of petroleum vapors in the UST with air to render the air space in the UST below the lower explosive limit.

**Quality Assurance Project Plan (QAPP)** - A plan that describes protocols necessary to achieve the data quality objective for a sampling event.

**Regulated Substance** - Petroleum and hazardous substances.

**Release** - includes, but is not limited to, any spilling, leaking, emitting, discharging, escaping, leaching, or disposing of a regulated substance from a UST into ground water, surface water, soils, or air.

**Reporting** - notifying DOH of an event by telephone, letter, or written reports.

**Residual Levels of Contaminants** - Measures of the remaining contaminants left in soil or groundwater after undertaking release response activities.

**Risk Assessment** - An evaluation performed to define the risk or potential risk posed to human health and/or the environment by the presence of specific chemicals released into the environment.

**Risk Based Corrective Action** - a consistent decision making process for the assessment and response to a petroleum release based on the protection of human health and the environment.

**Sampling and Analysis Plan (SAP)** - Consisting of a quality assurance project plan (QAPP) and a field sampling plan (FSP).

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**Site Assessment** - Evaluation of the area beneath and around the UST for releases. This includes measuring for contaminants in soil and/or ground water.

**Sludge and Sediments** - Residual materials accumulated at the bottom of a UST over time which can include heavy petroleum compounds, water, tank rust and scale, soil, dirt and other foreign materials.

**Tarpaulin** - An impermeable synthetic material designed to prevent the effects of rain and wind on contaminated soil or other materials beneath.

**Underground Storage Tank or UST or Tank** - means any combination of tanks (including pipes connected thereto) used to contain an accumulation of regulated substances, and the volume of which (including the volume of the underground pipes connected thereto) is ten percent or more beneath the surface of the ground.

**Vadose Zone** - The subsurface zone that extends between the ground surface and the water table and includes the capillary fringe overlying the water table.

**Water Table Aquifer** - An aquifer in which ground water is not confined under pressure by low permeability geological layer.

## GLOSSARY OF ABBREVIATIONS AND ACRONYMS

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>ANSI</b>	American National Standards Institute
<b>API</b>	American Petroleum Institute
<b>BTEX</b>	benzene, toluene, ethylbenzene, xylene
<b>CAB</b>	Clean Air Branch
<b>CFR</b>	Code of Federal Regulations
<b>CGI</b>	combustible gas indicators
<b>CNS</b>	central nervous system
<b>CPR</b>	cardiopulmonary resuscitation
<b>CRN</b>	Confirmed Release Notification
<b>CWB</b>	Clean Water Branch
<b>DLIR</b>	Hawaii Department of Labor and Industrial Relations
<b>DLNR</b>	Hawaii Department of Land and Natural Resources
<b>DOD</b>	Hawaii Department of Defense
<b>DOH</b>	Hawaii Department of Health - UST Section

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<b>DOSH</b>	Division of Occupational Safety and Health
<b>DOT</b>	Hawaii Department of Transportation
<b>EDB</b>	ethylene dibromide
<b>EDC</b>	ethylene dichloride
<b>ELY</b>	ethylene glycol
<b>EPA</b>	Environmental Protection Agency
<b>FID</b>	flame ionization detector
<b>FSP</b>	field sampling plan
<b>GAC</b>	Granular Activated Carbon
<b>GC</b>	gas chromatograph
<b>HAR</b>	Hawaii Administrative Rule
<b>HEER</b>	Office of Hazard Evaluation and Emergency Response
<b>HRS</b>	Hawai`i Revised Statutes
<b>IDLH</b>	immediately dangerous to life or health
<b>IRIS</b>	Integrated Risk Information System
<b>LEL</b>	lower explosive limit
<b>MCL</b>	maximum concentration limit
<b>MSHA</b>	Mine Safety and Health Administration
<b>MTBE</b>	methyl tert-butyl ether
<b>NFPA</b>	National Fire Protection Association
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NLPA</b>	National Leak Prevention Association
<b>OSHA</b>	Occupational Safety and Health Administration
<b>OVA</b>	organic vapor analyzer
<b>OSWM</b>	Office of Solid Waste Management
<b>PAH</b>	polycyclic aromatic hydrocarbon
<b>PCB</b>	polychlorinated biphenyl
<b>PCS</b>	petroleum contaminated soil
<b>PEL</b>	permissible exposure level
<b>PERC</b>	perchloroethylene
<b>PID</b>	photo ionization detector
<b>PPE</b>	personal protective equipment
<b>ppb</b>	parts per billion
<b>ppm</b>	parts per million



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<b>QAPP</b>	quality assurance project plan
<b>QA/QC</b>	quality assurance / quality control
<b>RBCA</b>	Risk-Based Corrective Action
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SAP</b>	Sampling and Analysis Plan
<b>SAL</b>	Soil Action Level
<b>SDWB</b>	Safe Drinking Water Branch
<b>SHWB</b>	Solid and Hazardous Waste Branch
<b>SHSP</b>	Site Health and Safety Plan
<b>TCA</b>	trichloroethane
<b>TCE</b>	trichloroethylene
<b>TCLP</b>	toxicity characterisitic leaching procedure
<b>TDS</b>	total dissolved solids
<b>TEL</b>	tetraethyl lead
<b>TLV</b>	threshold limit value
<b>TML</b>	tetramethyl lead
<b>TOCP</b>	tri-ortho-cresyl phosphate
<b>TPH</b>	total petroleum hydrocarbons
<b>TSCA</b>	Toxic Substances Control Act
<b>TVH</b>	total volatile hydrocarbons
<b>UIC</b>	underground injection control
<b>UST</b>	underground storage tank
<b>USDW</b>	underground source of drinking water
<b>VOC</b>	volatile organic compound
<b>WWT</b>	wastewater treatment plant